

*E1
cancel* wherein said suction means are fans arranged at an interior side of the end portions of the stator space including rotor bearings, in which an outlet channel of said fans extends through the end portions, said end portions being disposed in a plane perpendicular to an axis of said rotor, and

wherein the arrangement is such that the cooling medium is drawn by the suction into the stator space through said at least one inlet opening and that the cooling medium is removed at the vicinity of both portions of the stator space.

E2 8. (Three Times Amended) A method for an electric construction, comprising a stator space defined by a shell and end portions at the either ends of the shell, wherein a stator and a rotor of the electric machine are disposed within the stator space and said end portions are disposed in a plane perpendicular to an axis of said rotor, wherein cooling medium is drawn into the stator space through at least one cooling medium inlet opening in said shell intermediate the ends of the rotor by suction means for providing a suction, said suction means being provided at a vicinity of both end portions and are fans arranged at an interior side of the end portions of the stator space including rotor bearings, in which an outlet channel of said fans extends through the end portions, and the cooling medium is removed at the vicinity of both ends portions of the stator space.

REMARKS

Claims 1 and 8 are amended herein. Support for the amendments can be found in Figure 2 of the present invention and at the corresponding description in the specification. Claims 1-12 are pending in the application and submitted for reconsideration.

In the final Office Action dated April 9, 2002, claims 1-6 and 8-11 were rejected under 35 USC § 103(a) as being unpatentable over two cited references, Japanese patent no. JP35206204A to Ozaki in view of Japanese patent no. JP404138056A to Sato. The Applicant submits that claims 1-6 and 8-11 recite subject matter not shown or suggested by the cited prior art.

Claim 1, as submitted herein, defines an electric machine construction, which includes a stator space, a stator and a rotor. The stator space is defined by a shell and end portions at both ends of the shell. The stator and rotor have a first end and a second end disposed within the stator space, which include at least one cooling medium inlet opening and a suction means. The cooling medium inlet opening(s) are in the shell and positioned intermediate the ends of the rotor. The suction means is in the vicinity of both end portions of the stator space for providing suction for drawing cooling medium into the stator space. The suction means are fans arranged at an interior side of the end portions of the stator space including rotor bearings. The outlet channel of the fans extends through the end portions, which are disposed in a plane perpendicular to an axis of the rotor. The arrangement is such that the cooling medium is drawn by the suction into the stator space through the inlet opening(s) and that the cooling medium is removed at the vicinity of both portions of the stator space.

Claim 8 recites a method for an electric construction. The electric construction includes a stator space defined by a shell and end portions at the either ends of the shell, wherein a stator and a rotor of the electric machine are disposed within the stator space. The cooling medium is drawn into the stator space through at least one cooling medium inlet opening in the shell intermediate the ends of the rotor by suction means for providing a suction. The suction means is provided at a vicinity of both end portions and are fans arranged at an interior side of the end portions of the stator space including rotor bearings. The outlet channel of the fans extends through the end portions, which are disposed in a plane perpendicular to an axis of the rotor. The cooling medium is removed at the vicinity of both ends portions of the stator space.

Ozaki merely shows a counter flow barrier for circulating airflow within the stator space of an electric machine. Ozaki shows inlets in the shell portion of its machine only between the end of the stator and the counter flow barrier, and does not show any inlets positioned intermediate the ends of the rotor, as defined by the present invention. Ozaki is merely aimed to the counter flow barrier for circulating airflow within the stator space, which circulates air out of the shell 1 via a passage 7. The passage 7 is through the shell portion and not through the end portion. Thus, Ozaki fails to show or suggest the inlet or the outlet as defined by claims 1 and 8.

Sato does not make up for the deficiencies of Ozaki. The Sato machine is of an entirely different design, an axial flux machine. The Sato machine has two permanent magnet rotors arranged with both sides of one stator. This design makes the machine entirely different with respect to cooling. Figs. 4 and 5 of Sato, which do not include the shell, only show internal air flow in and around the stator and rotor. Sato does not show

any inlets into the shell or outlets through end portions, as defined by the claimed invention.

Thus, the Applicant submits that the combination of the references does not show or suggest each and every element of the claimed invention. Furthermore, even if the references could be combined there is inadequate motivation to combine the references to derive the claimed invention. Accordingly, the Applicant requests that claims 1, and 2-5 which depend thereon, 8, and 9-11 which depend thereon, be allowed.

Claims 7 and 12 were rejected under 35 USC § 103(a) as being unpatentable over Ozaki in view of Sato, further in view of Sheerin (U.S. Patent No. 5,844,333). The Applicant submits that claims 7 and 12 recite subject matter which is not shown or suggested by any combination of the cited prior art.

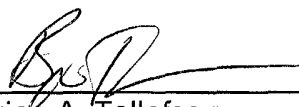
The Sheerin patent presents a conventional structure and fails to make up for the above-described deficiencies of Ozaki and Sato. Thus, since claims 7 and 12 depend upon claims 1 and 8, respectively, the Applicant submits that the combination of cited prior art fails to show or suggest each and every element of claims 7 and 12. Accordingly, Applicants request that the rejection be withdrawn and claims 7 and 12 be allowed.

In view of the above, the Applicant respectfully submits that claims 1-12, each recites subject matter that is neither disclosed nor suggested in the cited prior art. The Applicant also submits that this subject matter is more than sufficient to render the claims non-obvious to a person of ordinary skill in the art, and therefore respectfully

requests that claims 1-12 be found allowable and that this application be passed to issue.

In the event this paper is not being filed, the Applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension, together with any additional fees, may be charged to Counsel's Deposit Account No. 01-2300.

Respectfully submitted,



Brian A. Tollefson
Attorney for Applicant
Registration No. 46,338

Customer No. 004372
ARENT FOX KINTNER PLOTKIN & KAHN, PLLC
1050 Connecticut Avenue, N.W.
Suite 400
Washington, D.C. 20036-5339
Tel: 202/857-6000
Fax: 202/638-4810

BAT:cdd

Enclosures: Petition for Extension of Time